



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------|-------------|----------------------|---------------------|------------------|
| 10/538,284 | 06/29/2005 | Ho Seob Kim | KIMH3005/REF | 2017 |
| 23364 | 7590 | 04/03/2008 | EXAMINER | |
| BACON & THOMAS, PLLC | | | JOHNSTON, PHILLIP A | |
| 625 SLATERS LANE | | | | |
| FOURTH FLOOR | | | ART UNIT | PAPER NUMBER |
| ALEXANDRIA, VA 22314 | | | 2881 | |
| | | | | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 04/03/2008 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/538,284 | KIM ET AL. | |
| | Examiner | Art Unit | |
| | PHILLIP A. JOHNSTON | 2881 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 03 January 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-13 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 29 June 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

Detailed Action

1. This Office Action is submitted in response to Amendment filed 1-3-2008, wherein claims 1, 4, and 6 are amended. Claims 1-13 are pending.

Examiners Response to Arguments

2. Applicants arguments are moot in view of new grounds for rejection necessitated by the applicant's amendment.

Claims Rejection - 35 U.S. C. 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 6, and 7 are rejected under 35 U.S.C. 102 (b) as being anticipated by Suzulki, U.S. Pat. Pub. No 2001/0028037.

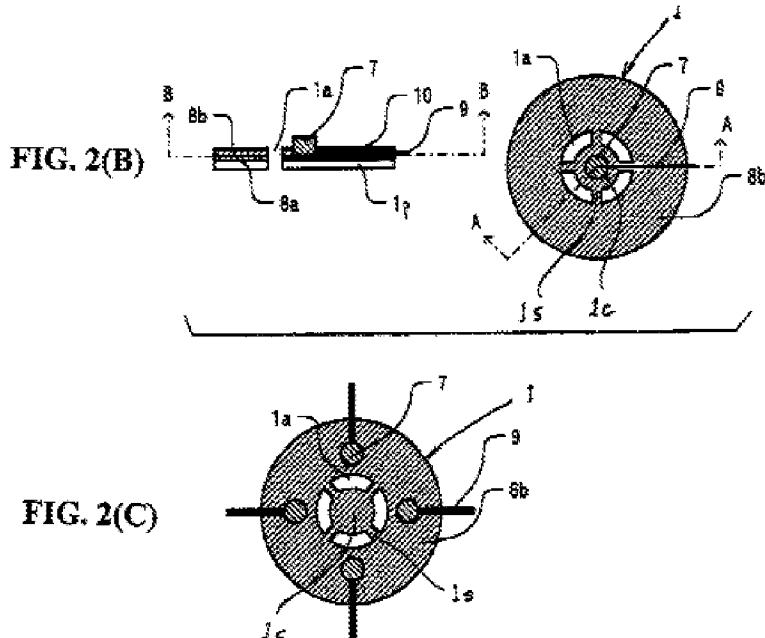
5. Regarding claims 1 and 6, Suzuki teaches at [0053] through [0060], an aperture plate 1 having;

(a) plural conductive sensing regions. See reference numeral 7 in Figures 2(B) and 2(C) below,

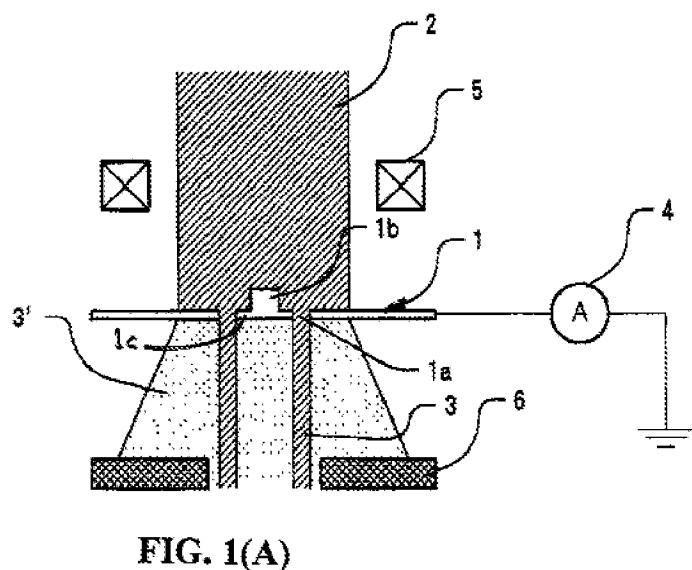
(b) sensing regions 7 insulated from each other by insulating film 8a as shown in Figure 2(B) below,

(c) measurement of the magnitude and direction of beam misalignment provided by the respective electrical current readings obtained from the individual units 7; for

example, when all current readings are equal the center of the incident beam is aligned with the center of the aperture 1c shown in Figure 2(C) below.



(d) measuring the electrical current to each sensing region with ammeter 4, as shown in Figure 1(A) below.



6. Regarding claims 2 and 7 Suzuki teaches conductive member 7 is made of metal. See [0051].

Claims Rejection – 35 U.S.C. 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, and 5, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No 2001/0028037 to Suzuki.

9. Regarding claims 4 and 5, Suzuki teaches at [0030], the source of the charged particle beam is regulated, according to the measured current, so as to produce a desired beam-intensity distribution; i.e., the detected beam current, following completion of beam alignment typically is proportional to the beam dose generated by the source. Accordingly, the beam dose can be maintained at a constant value by detecting the beam current, as described above regarding claims 1 and 6, and controlling the source to maintain the beam current at a constant value. Therefore one of ordinary skill would recognize that regulation and control of the detected beam current in accordance with Suzuki would include calculating the position of the beam relative to the detected current, and adjusting the position of the emitter in the same way as the initial alignment was performed by Suzuki. See also [0030].

10. Regarding claims 9-13, Suzuki discloses the device used in these method claims, as described above regarding claims 1 and 6.

11. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No 2001/0028037 to Suzuki, in view of Chang, U.S. Patent No. 5,122,663.

12. Suzuki fails to teach the use of sensor regions including p-n junctions.

13. Chang teaches an emitter beam alignment sensor with detection regions including p-n junctions. See Col. 5, line 35-51.

14. Chang modifies Suzuki to provide conducting electrodes having shallow p-n junctions for electrical connections.

15. Therefore it would have been obvious to one of ordinary skill in the art that Suzuki would use the p-n junctions of Chang to detect electrons using shallow junctions having significant gain for detecting a small flux of secondary electrons.

Conclusion

16. The Amendment filed on 1-3-2008 has been considered but the arguments are moot in view of new grounds for rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor Robert Kim can be reached at (571) 272-2293. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

March 20, 2008

/ROBERT KIM/

Supervisory Patent Examiner, Art Unit 2881